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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,401	CHEN ET AL.	
	Examiner	Art Unit	
	AWET HAILE	2474	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 December 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3-6,8-12,14-16 and 18-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1, 3-6, 8-12, 14-16 and 18-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. **Claims 1, 3-6, 8-12, 14-16 and 18-21** are pending on this application.

Claims 2, 7, 13 and 17 are cancelled.

Response to Arguments

2. Applicant's arguments, see page 7, filed 12/08/2010, with respect to rejection of claims **1, 3-6, 8-12, 14-16 and 18-21** under 35 USC§ 112 second paragraph have been fully considered and are persuasive. The 35 USC§ 112 second paragraph rejection of **1, 3-6, 8-12, 14-16 and 18-21** has been withdrawn.

3. Applicant's arguments see pages 8-15 filed on 12/08/2010 have been fully considered but they are not persuasive.

Regarding independent claims 1, 6, 12 and 16 the applicant argues that, Iwata does not teach, "…creating an individual QoS resource list in each edge router to record a resource state corresponding to a path..." remarks page 9 first paragraph.

Examiner respectfully disagrees, Iwata' 316's, column 15 lines 25-67, column 16 lines 12-61 and Figs. 12-14, teaches, each of the border communication devices 501, 503 and 505, creating precalculated path memory 32 which includes precalculated path topology memory 321 and precalculated path resources information memory 322 for storing resource information related to a path (e.g., tables 511 and 531), thus, Iwata' 316's border communication devices(see Figs. 13.A, 14 A-E, nodes 501, 503 and 505) storing path resource information table(i.e., Figs.

14F. 14G, 18B-C) in the border communication device memory 17(see Fig. 12, elements 321 and 322) teaches applicants argued limitation "creating an individual QoS resource list in each edge router to record a resource state corresponding to a path".

In response to applicant's argument that Iwata does not teach, "…each edge router assigning resources to a user terminal which makes a request based on said QoS resource list and **updating the QoS resource list**..." remarks page 9 paragraph 5.

Examiner respectfully disagrees, Iwata' 316's, column 7 lines 13-67, column 8 lines 1-20, 58-67 and Figs. 2, 9, 12 teaches, when a border communication device receives a connection request, searching the precalculated search memory using precalculated path resource information searcher and setup the connection based on the precalculated path resources(i.e., it reads on applicants argued limitation "each edge router assigning resources to a user terminal which makes a request based on said QoS resource list"), Iwata' 316's, column 7 lines 1-25, column 8 lines 35-67 and Fig. 17 also teaches, updating the precalculated path table/memory periodically by referring to the link information table (i.e., updating the QoS resource list).

In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., each edge router updates its QoS resource list **after** assigning resources to a user terminal based on the QoS resource list) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See In re Van Geuns, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993). Applicant does **not** specifically claimed (in claim 1), each edge router updates its QoS resource list **after** assigning resources to a user terminal based on the QoS resource list.

In response to applicant's argument that Iwata does not teach"…the resource states of the paths from an edge router to **all other edge routers in the same domain are recorded in said QoS resource list**…"

Examiner respectfully disagrees, Iwata' 316's columns 7, 16 and Figs. 6C and 18B–C discloses, border communication device 503(a) recording precalculated path resources for the routing paths of border device 501(a) to border devices 503(c) and border device 501(a) to 505(d). For applicants convenience Iwata's Figs. 6C and 18B are reproduced below.

FIG.6C

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LINK	DESTINATION	PRECALCULATED PATH TOPOLOGY	PRECALCULATED PATH RESOURCE	
			DELAY	AVAILABLE BW
(a, c)	b	a c b	9 msec	40 Mbps
	c	a c	5 msec	40 Mbps
	d	a c d	7 msec	40 Mbps
	e	a c e a c d e	6 msec 10 msec	30 Mbps 40 Mbps

FIG.18B

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DESTINATION	PRECALCULATED PATH TOPOLOGY	PRECALCULATED PATH RESOURCE	
		DELAY	AVAILABLE BW
c	a b c	7 msec	80 Mbps
	a c	3 msec	60 Mbps
	a e c	2 msec → 4 msec	30 Mbps → 20 Mbps
	a e d c	6 msec → 8 msec	50 Mbps → 20 Mbps
d	a b c d	9 msec	30 Mdps
	a c d	5 msec	50 Mdps
	a e d	4 msec → 6 msec	50 Mbps → 20 Mbps
	a e c d	4 msec → 6 msec	30 Mbps → 20 Mbps

In view of the above figures, it's clear that Iwata' 316's precalculated path resources information stored in the border communication device (i.e., border device 501(a))) includes

precalculated path resource information from border device 501(a) to all other border communicaion devices (i.e., border devices 503(c) and 504(d)).

Thus, it is clear that the combination of Li '119 and Iwata' 316's disclosed applicant's broadly claimed invention.

In response to applicants arguments against the references individually (remarks, pages 10-11) one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See In re Keller, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); In re Merck & Co., 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986).

Regarding dependent claims 3-5, 8-11, 14-15 and 18-20 the applicant argues these claims conditionally on that of their parent independent claims.

Applicant's arguments are unpersuasive and, therefore, the rejections of these claims are hereby maintained.

Claim Rejections – 35 USC§ 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. The factual inquiries set forth in Graham **v.** John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.

4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

6. **Claims 1, 3, 5, 16, 18, 20 and 21** are rejected under 35 U.S.C. 103(a) as being unpatentable over Li et al (hereinafter referred as Li '119) US Publication No. 2006/0182119 A1 in view of Iwata et al(US 7047316 B2).

Regarding claim 1, Li '119 discloses, a method for realizing QoS guarantee in a MPLS network having a number of edge routers(see Figs. 3-4, and paragraphs 99, 170-172, i.e. Edge routers R1-R4) comprising: creating QoS resource list in each edge router to record resource state corresponding to a path (see paragraphs 40-44, 172-177 and Figs. 4-5, i.e., each of the edge routers forming a quality of service edge router list, related to resources between source APP1 and destination APP2).

Li '119 does not explicitly teach, creating an individual QoS resource list, each edge router assigning resources to a user terminal which makes a request based on said QoS resource list and updating the QoS resource list, wherein the resource states of the paths from an edge router to all the other edge routers in the same domain are recorded in said QoS resource list.

Iwata' 316 teaches, creating an individual QoS resource list in each edge router to record a resource state corresponding to a path(see column 7 lines 1-50, column 8 lines 23-67, column 15 lines 25-67, and Figs. 3, 12 -14, 18B-C, i.e., each of the border nodes 501, 503 and 505, creating link resource and precalculated path tables related to a path), each edge router assigning resources to a user terminal which makes a request based on said QoS resource list (see column 7 lines 1-67 and Figs. 2, 9, i.e., border nodes assigning resources when receiving a request based on precalculated path table/memory information) and updating the QoS resource list(see column 7 lines 1-25, column 8 lines 35-67 and Fig. 17, i.e., updating the precalculated path

table/memory periodically by referring to the link information table) wherein the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list(see columns 7, 16 and Figs. 3G, 6A, 6C, 14G, i.e., storing precalculated path resources list from the source node 501(a) to all border nodes 503(c) and 505(d)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of creating resource lists in each of border nodes for each path, assigning resources based on the resource list and updating the resource list as taught by Iwata' 316, into the communication system of Li '119, in order to prevent connection setup failure , by enabling path precalculation satisfying required quality of a connection and reducing call blocking probability, as suggested by Iwata' 316 (see column 2 lines 15-50).

Regarding claim 3, Li '119 discloses, a method characterized in that the step of creating the QoS resource list further comprises pre-configuring LSPs based on service class to set different LSPs for different service classes (see paragraphs 10, 172, 177-179 and Figs. 4, 5, i.e., obtaining quality of service edge router list of edge routers in same domain to determine available resources); said edge router obtaining resource information of the path from the edge router to each of the other edge routers in the same domain based on LSP resource state information and route information of said MPLS network, and saving the resource information in the QoS resource list(see paragraphs 29, 175-179 and Figs. 4-5, i.e., each of the edge nodes adding updating the quality of service edge routers list and forwarding a service request based on the routers list).

Regarding claim 5, Li '119 discloses, said QoS resource list at least includes information of the egress edge router(see paragraphs 175-177 and Figs. 4-5, i.e., quality of

service edge router list comprising information related to egress routers 2 and 4), service class(see 93-96 i.e., each edge node treating each data flow/ path according to it's assigned class of services), LSP resources (see paragraphs 172-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to edge routers from source APP1 to APP2) and available resources (see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to resources between each of the edge routers).

Regarding claim 16, Li '119 discloses, an edge router for a MPLS network(see Figs. 3-4, and paragraphs 99, 170-172, i.e. Edge routers R1-R4), comprising: a QoS resource list for recording a number of resource states corresponding to a number of paths(see paragraphs 40-44, 172-177 and Figs. 4-5, i.e., each of the edge routers forming a quality of service edge router list, related to resources between source APP1 and destination APP2);

and an access and resource control unit for accessing or rejecting a resource request from a user terminal based on information recorded in the QoS resource list and updating said QoS resource list(see Paragraphs 40-46, 172-176 and Figs. 4-5, i.e., each of the edge nodes updating the quality of service edge router list, by adding/removing routing ID to the quality of service edge router list, related to resources between source APP1 and destination APP2, Li also teaches an edge node rejecting resource requests based on the quality of service edge router list).

Li '119 does not explicitly teach, wherein said QoS resource list is created in each edge router, the resource states of the paths from the edge router to all other edge routers in the same domain are recorded in said QoS resource list.

Iwata' 316 teaches, wherein said QoS resource list is created in each edge router (see column 7 lines 1-50, column 8 lines 23-67, column 15 lines 25-67, and Figs. 3, 12 -14, 18B-C,

i.e., each of the border nodes 501, 503 and 505, creating link resource and precalculated path tables)and the resource states of the paths from the edge router to all other edge routers in the same domain are recorded in said QoS resource list (see columns 7, 16 and Figs. 3G, 6A, 6C, 14G, i.e., storing precalculated path resources list from the source node 501(a) to all border nodes 503(c) and 505(d)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of creating resource lists in each of border nodes for each path and assigning resources based on the resource list as taught by Iwata' 316, into the communication system of Li '119, in order to prevent connection setup failure , by enabling path precalculation satisfying required quality of a connection and reducing call blocking probability, as suggested by Iwata' 316 (see column 2 lines 15-50).

Regarding claim 18, Li '119 discloses, a method further including a route list and a MPLS list based on which said QoS resource list is created and corresponds to LSP resource state of the MPLS network (see paragraph 179 and Figs.4-5, i.e. creating a routing list in an MPLS network).

Regarding claim 20, Li '119 discloses, said QoS resource list at least includes information of an egress edge router(see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to egress routers 2 and 4), service class(see 93-96 i.e., each edge node treating each data flow/ path according to it's assigned class of services), LSP resources (see paragraphs 172-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to edge routers from source APP1 to APP2) and

available resources (see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to resources between each of the edge routers).

Regarding claim 21, Li '119 discloses, A MPLS network for realizing QOS guarantee(see paragraphs 99, 170-175, i.e. MPLS network with a Qos is disclosed) , comprising an edge router for a MPLS network(see Figs. 3-4, and paragraphs 99, 170-172 and Fig. 4-5, i.e. Edge routers R1-R4), comprising: a QoS resource list for recording a number of resource states corresponding to a number of paths(see paragraphs 40-44, 172-177 and Figs. 4-5, i.e., each of the edge routers forming a quality of service edge router list, related to resources between source APP1 and destination APP2);

and an access and resource control unit for accessing or rejecting a resource request from a user terminal based on information recorded in the QoS resource list and updating said QoS resource list(see Paragraphs 40-46, 172-176 and Figs. 4-5, i.e., each of the edge nodes updating the quality of service edge router list, by adding/removing routing ID to the quality of service edge router list, related to resources between source APP1 and destination APP2, Li also teaches an edge node rejecting resource requests based on the quality of service edge router list).

7. **Claims 6, 10 and 11** are rejected under 35 U.S.C. 103(a) as being unpatentable over Li '119 in view of Rabie et al (hereinafter referred as Rabie '829) US Publication No. 2003/0076829 A1 and Iwata' 316.

Regarding claim 6, Li '119 discloses, a method for establishing a QoS data path in a MPLS network, including: a user terminal sending a QoS resource request to an ingress edge router (see paragraphs 40, 170-172 and Figs. 4-5, i.e. a resource terminal transmitting a source request to an edge node);

said edge router determining information of a path to an egress edge router of the QoS resource request (see paragraphs 44, 172-175 and Figs. 4-5, i.e., an edge router which receives the resource allocation message from the source terminal, determines the resource allocation path according to the stored edge router list, transmits the resource allocation message for the data flow along the determined resource allocation path); when the resource request is determined to be accessed, updating said QoS resource list(see paragraphs 47-49, 175-179 and Figs. 4-5, i.e., if there are enough resources to be allocated, the edge router perform resource allocation, and each of the edge nodes updating the quality of service edge router list, by adding/removing routing ID to the quality of service edge router list, related to resources between source APP1 and destination APP2).

Li '119 is silent on, said ingress edge router determining whether the resource request is accessed or rejected based on comparing available resources corresponding to the path of recorded in said QoS resource list with bandwidth requested in said resource request.

Rabie '829, discloses said ingress edge router determining whether the resource request is accessed or rejected based on comparing available resources corresponding to the path of recorded in said QoS resource list with bandwidth requested in said resource request (see paragraphs 37-41, i.e., determining whether the service category requested can be supported by comparing the available bandwidth for the link/pool with the calculated reserved bandwidth).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of determining whether the resource request is allowed based on comparison of available bandwidth with the resource request as taught by Rabie '829, into the communication system of Li '119, in order to result in an optimal route

through the network that satisfies the bandwidth requirement, as suggested by Rabie '829 (see paragraph 39).

The combination of Li '119 and Rabie '829 does not explicitly teach, wherein said QoS resource list is created in each edge router, and the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list.

Iwata' 316 teaches, wherein said QoS resource list is created in each edge router (see column 7 lines 1-50, column 8 lines 23-67, column 15 lines 25-67, and Figs. 3, 12 -14, 18B-C, i.e., each of the border nodes 501, 503 and 505, creating link resource and precalculated path tables)and the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list (see columns 7, 16 and Figs. 3G, 6A, 6C, 14G, i.e., storing precalculated path resources list from the source node 501(a) to all border nodes 503(c) and 505(d)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of creating resource lists in each of border nodes for each path and assigning resources based on the resource list as taught by Iwata' 316, into the combined communication system of Li '119 and Rabie '829, in order to prevent connection setup failure , by enabling path precalculation satisfying required quality of a connection and reducing call blocking probability, as suggested by Iwata' 316 (see column 2 lines 15-50).

Regarding claim 10, Li '119 discloses, the step of updating the QoS resource list further includes: subtracting the bandwidth resources requested in said QoS resource request from the available resources of the corresponding requested resources in said QoS resource list (see

paragraphs 49, 172-179, i.e., a method of updating the bandwidth allocated to each of the sources is disclosed).

Regarding claim 11, Li '119 discloses, said QoS resource list at least includes information of the egress edge router(see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to egress routers 2 and 4), service class(see 93-96 i.e., each edge node treating each data flow/ path according to it's assigned class of services), LSP resources (see paragraphs 172-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to edge routers from source APP1 to APP2) and available resources (see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to resources between each of the edge routers).

8. **Claims 12, 14 and 15** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kurose et al. (hereinafter referred as Kurose '089) US Publication No. 2003/0084089 A1 in view of Li '119 and Iwata' 316.

Regarding claim 12, Kurose '089 discloses, a method for terminating QoS data transmission in a MPLS network, including: an ingress edge router receiving a resource releasing request from a user terminal (see Fig.1 and paragraph 91-93, i.e., the user terminal transmit a request to the ingress router to request a communication resource resservbility); said ingress edge router releasing the resources occupied by said user terminal (see paragraph 141, when it's determined that the data are the resource release requests, the edge router releases the communication resource of the ingress router).

Kurose '089 is silent on, said ingress edge router modifying its QoS resource list which records resource state corresponding to a path.

Li '119 teaches, said ingress edge router modifying its QoS resource list which records resource state corresponding to a path (see paragraphs 172-174, i.e., if the resources are not enough, returning a request failure message; otherwise adding R1 ID in the QER list of the resource request message).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of modifying an Qos resources list as taught by Li '119, into the communication system of Kurose '089, in order to reduce flow state information maintained at the network nodes as well as overhead of signaling processing and storage at the network nodes, as suggested by Li '119 (see abstract).

The combination of Kurose '089 and Li '119 does not explicitly teach, wherein said QoS resource list is created in each edge router, and the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list.

Iwata' 316 teaches, wherein said QoS resource list is created in each edge router (see column 7 lines 1-50, column 8 lines 23-67, column 15 lines 25-67, and Figs. 3,12 -14,18B-C, i.e., each of the border nodes 501, 503 and 505, creating link resource and precalculated path tables)and the resource states of the paths from the edge router to all the other edge routers in the same domain are recorded in said QoS resource list (see columns 7, 16 and Figs. 3G, 6A, 6C, 14G, i.e., storing precalculated path resources list from the source node 501(a) to all border nodes 503(c) and 505(d)).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of creating resource lists in each of border nodes for each path and assigning resources based on the resource list as taught by Iwata' 316, into the combined communication system of Kurose '089 and Li '119, in order to prevent connection setup failure , by enabling path precalculation satisfying required quality of a connection and reducing call blocking probability, as suggested by Iwata' 316 (see column 2 lines 15-50).

Regarding claim 14, Kurose '089 is silent on, a method characterized in that the step of modifying the QoS resource list further includes: adding corresponding amount to available QoS resources corresponding to an egress edge router of said QoS data transmission in the QoS resource list.

Li '119 teaches, a method characterized in that the step of modifying the QoS resource list further includes: adding corresponding amount to available QoS resources corresponding to an egress edge router of said QoS data transmission in the QoS resource list (see paragraphs 100, 172-177 and Figs. 4-5, i.e., each of the edge routers forming a quality of service edge router list, related to resources between source APP1 and destination APP2 paths).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of edge routers forming a quality of service edge router list, related to resources between source APP1 and destination APP2 paths as taught by Li '119, into the communication system of Kurose '089, in order to reduce flow state information maintained at the network nodes as well as overhead of signaling processing and storage at the network nodes, as suggested by Li '119 (see abstract).

Regarding claim 15, Kurose '089 is silent on; a method characterized in that said QoS resource list at least includes information of the egress edge router, service class, LSP resources and available resources.

Li '119 teaches, said QoS resource list at least includes information of the egress edge router(see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to egress routers 2 and 4), service class(see 93-96 i.e., each edge node treating each data flow/ path according to it's assigned class of services), LSP resources (see paragraphs 172-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to edge routers from source APP1 to APP2) and available resources (see paragraphs 175-177 and Figs. 4-5, i.e., quality of service edge router list comprising information related to resources between each of the edge routers).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of creating QoS resource list at least including information of the egress edge router, service class, LSP resources and available resources as taught by Li '119, into the communication system of Kurose '089, in order to reduce flow state information maintained at the network nodes as well as overhead of signaling processing and storage at the network nodes, as suggested by Li '119 (see abstract).

9. **Claims 4 and 19** rejected under 35 U.S.C. 103(a) as being unpatentable over Li '119 in and Iwata' 316 as applied to claim(s) above, and further in view of Matsubara et al (hereinafter referred as Matsubara '640) US Patent No. 7, 215, 640 B.

Regarding claim 4, the combination of Li '119 and Iwata' 316 teaches, edge router receiving a resource request from the user terminal (see Iwata' 316, see column 7 lines 1-67 and Figs. 2, 9, i.e., border nodes assigning resources when receiving a request based on precalculated path table/memory information), edge router searching said QoS resource list for available information of the requested resources based on an egress edge router in said resource request (see Iwata' 316, see column 7 lines 1-67 and Figs. 2, 9, i.e., border nodes assigning resources when receiving a request based on precalculated path table/memory information).

The combination of Li '119 and Iwata' 316 does not explicitly teach, edge router determining whether the resource request is accessed or rejected based on the available information of said requested resources when the resource request is determined to be accessed, modifying the available information of the requested resources in said QoS resource list and sending an acknowledgement message to said user terminal.

Matsubara '640 teaches, said edge router determining whether the resource request is accessed or rejected based on the available information of said requested resources (See Matsubara Col 6; lines 53-63); when the resource request is determined to be accessed, modifying the available information of the requested resources in said QoS resource list and sending an acknowledgement message to said user terminal (See Matsubara Col 11; lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of determining whether the resource request is accessed or rejected based on the available information of said requested resources as taught by Matsubara '640 into the communion system of Li '119, in order to reduces network storage

capacity requirements and computational load as compared to a conventional pre-set path system, as suggested by Matsubara '640(see abstract).

Regarding claim 19, Li '119 discloses, a data transmission unit which, under the control of said access and resource control unit, performs operations such as classifying(see 93-96 i.e., each edge node treating each data flow/ path according to it's assigned class of services), marking (see 93-96 i.e., each edge node updating the resource list).

The combination of Li '119 and Iwata' 316 does not explicitly teach, queuing and scheduling on data transmitted by the user terminal.

Matsubara '640 teaches, queuing and scheduling on data transmitted by the user terminal (see column 11 and Fig 5).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of queuing and scheduling on data transmitted by the user terminal as taught by Matsubara '640 into the combined communion system of Li '119 and Iwata' 316, in order to reduces network storage capacity requirements and computational load as compared to a conventional pre-set path system, as suggested by Matsubara '640(see abstract).

10. **Claims 8 and 9** rejected under 35 U.S.C. 103(a) as being unpatentable over Li '119, Rabie '829 and Iwata' 316 as applied to claim(s) above, and further in view of Matsubara '640.

Regarding claim 8, the combination of Li '119, Rabie '829 and Iwata' 316 does not explicitly teach, comparing available resources of the requested resources in said QoS resource list with bandwidth resources requested in said resource request; if said available resources are

less than said bandwidth resources, sending a message of rejecting access to said user terminal, otherwise allowing said user terminal to access.

Matsubara '640 discloses, comparing available resources of the requested resources in said QoS resource list with bandwidth resources requested in said resource request (See Matsubara Col 6; lines 64-67); if said available resources are less than said bandwidth resources, sending a message of rejecting access to said user terminal, otherwise allowing said user terminal to access (See Matsubara Col 7; lines 15-21).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of comparing available resources of the requested resources in a QoS resource list with bandwidth resources requested in resource request as taught by Matsubara '640, into the communication method of Li '119, in order to reduces network storage capacity requirements and computational load as compared to a conventional pre-set path system, as suggested by Matsubara '640(see abstract).

Regarding claim 9, Li '119 discloses,: when the resource request is not cross-domain, said edge router sending the resource request to a destination user terminal in said resource request and waiting for an acknowledgement message from the destination user terminal (see paragraph 0178); when the resource request is cross-domain, said edge router searching for a domain which is close to the destination user terminal in said resource request and has available resources larger than said bandwidth resources, sending the resource request to an edge router of the domain and waiting for an acknowledgement message from the edge router of the domain (see paragraphs 175-179 and Figs, 4-5).

Li '119 and Rabie '829 are silent on, after receiving the acknowledgement message, said edge router sending the acknowledgement message to said user terminal; and after receiving the acknowledgement message, said user terminal starts the data transmission.

Matsubara '640 teaches, after receiving the acknowledgement message, said edge router sending the acknowledgement message to said user terminal; and after receiving the acknowledgement message, said user terminal starts the data transmission(see Matsubara Col 11; lines 30-33).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate, the method of comparing available resources of the requested resources in a QoS resource list with bandwidth resources requested in resource request as taught by Matsubara '640, into the communication method of Li '119, in order to reduces network storage capacity requirements and computational load as compared to a conventional pre-set path system, as suggested by Matsubara '640(see abstract).

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, Masuda et al(US 2002/0059432 A1) and Matsubara et al(US 2004/0202159 A1) are recited to show method of providing quality of service in an MPLS network.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AWET HAILE whose telephone number is (571)270-3114. The examiner can normally be reached on Monday through Friday 8:30 AM - 4:30 PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Aung Moe can be reached on (571)272-7314. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Aung S. Moe/
Supervisory Patent Examiner, Art Unit 2474

/AWET HAILE/
Examiner, Art Unit 2474